Enzymes of germination.—DELEANO[20] has made a somewhat disconnected study of the transformation of oil and the concomitant occurrence of various enzymes in the castor bean during the process of germination. The tables relating to the oil content of the seeds (freed from coats) on successive days of germination show that the oil content is practically constant during the first eight days of germination, after that decreasing so rapidly that by the fifteenth day it has nearly all disappeared. Samples equivalent to those used for analysis were taken each day, ground up, and subjected to autolysis in 50–100cc of water, with a little toluene, for ten hours. The oil was saponified with increasing rapidity as germination advanced. Thus on the first day no autolysis took place; on the fourth day 5 per cent.; and on the sixth day 98 per cent. of the oil was hydrolyzed in ten hours. The accumulation of fatty acids did not take place. From these experiments the author concludes, in agreement as he supposes with LECLERC DU SABLON, that the oil is not saponified in the cells, but that saponification takes place only when the correlation of the cells is destroyed. This conclusion is scarcely warranted, since the products of hydrolysis of the oil are probably removed as soon as formed and still further changed. This is the almost universal course of enzymic activity in living plants, while it is also universally true that only when the correlation of the cellular processes is interrupted can the activity of the enzymes be clearly demonstrated by the accumulation of the products of enzymic activity.

The relative abundance of some of the enzymes at successive stages of germination was also determined. Catalase increases at first and then decreases with the disappearance of the oil. The oxidases increase for a time and then remain fairly constant. The author also believes that he has shown the presence of a reducing enzyme. The work on these enzymes is not of sufficient extent to allow any general conclusions regarding their functions.—H. HASSELBRING.

Ambrosia fungi.—NEGER has been giving attention to the fungi associated with certain insects, which utilize them for food. The monilia-like cells that the insects eat he proposes to call ambrosia, a generic term like nectar, bee-bread, etc., and the fungi are to be designated as ambrosia fungi. In his first paper[21] he considers the ambrosia galls (a happy substitute for zoomycocecidia) produced by gall-mites of the genus Asphondylia, in which the insect undergoes its development from egg to imago. The gall cavity is lined with a hymenium-like layer of fungus filaments producing spherical monilia-like cells, the ambrosia. Later pycnidia are formed on the external surface of the gall after the insect has

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[20] DELEANO, N. J., Recherches chimiques sur la germination. Centralbl. Bakt. Parasit. Infectionskrank. **24**[2]:130–146. 1909.

[21] NEGER, F. W., Ambrosiapilze. Ber Deutsch. Bot. Gesells. **26a**:735–754. *pl. 12. figs. 2.* 1908.